APPENDIX C

MAJOR COMPONENTS AND PRICES FOR THE INDIAN RIVER INLET, DELAWARE, SAND BYPASS SYSTEM

C-1. General. This appendix summarizes first costs associated with various bypassing system components for the Indian River Inlet, Delaware, bypassing project, a fixed plant, jet pump bypassing system (see Appendix E for more details on the system). The Indian River Inlet Project is presented because it is the most recently constructed fixed plant bypassing system in the United States and should be comparable in size to other fixed plant applications. Component and installation costs will of course vary because of geographic location, inflation, and other market fluctuations; but the component costs that follow provide a recent example of the expense associated with the construction of a bypassing system. The listing (Table C-1) is by no means

Table C-1

Costs (1989) for the Indian River Inlet Bypass Plant

Item	Cost
Contractor bid, lump sum	$1,462,000
Included in Lump Sum Bid	
Eductor assemblies and extensions (2)	60,000
Pump and engine (diesel) sets (1) Supply water (340 hp) (1) Slurry booster (330 hp)	180,000
Crawler crane (135 ton rated)	500,000
Pump house (1,120 square feet) (not including pumps, piping and instrumentation)	150,000
Nuclear density and flowmeter	30,000
Pipeline (3,000 feet) (Total price installed from pump house over bridge and on north beach including brackets on bridge; base price per foot of 12-inch high-density polyethylene pipe is approximately $18 to $20)	175,000

all inclusive, but it will provide the designer with an idea of the costs of major system components. Not included in the cost breakdown (but part of the total bid cost) are contractor profit, engineering and design costs, the beach pipeline from the pump house to the beach, and other miscellaneous items. Note that the components listed here are for a jet pump system.

C-2. Other Cost Considerations. Along with various component costs, a significant amount of the overall system cost will fall under the categories of design, administration, supervision, and contingencies. Typical rates are as follows:

a. Design--6 percent of component costs.

b. Administration and Supervision--5 percent of component costs.

c. Contingencies--20 percent of component costs.

It should be restated that these values are presented as an example, and significant regional variations should be expected.